

REMARKS

Applicants thank the Examiner for the thorough consideration given the present application.

Claims 1, 9-12 and 16-34 are currently being prosecuted. The Examiner is respectfully requested to reconsider his rejections in view of the amendments and remarks set forth below.

Claims at Issue

Applicants wish to point out to the Examiner that claim 15 was added by way of the previous amendment on November 26, 2002. The Examiner has not indicated this claim in either the Office Action Summary or the body of the Office Action. However, this claim has now been cancelled.

Rejection Under 35 U.S.C. § 112, First Paragraph

Claims 1, 8-12 and 14 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter not described in the specification. This rejection is respectfully traversed.

The Examiner points out that the noise damper is only described in the specification as (1) a liquid (2) an emulsion of an elastomer or (3) a foamy solution of water and surfactant. The Examiner points out that the specification does not

describe a damper having both an emulsion of an elastomer and surfactant. By way of the present amendment, Applicants now present four independent claims which separately describe the noise damper as being different materials. These materials are clearly found in the specification. Thus, claim 1 now includes a noise damper which is an emulsion of at least one kind of elastomer. Claim 17 indicates that the noise damper is a rubber latex. Claim 19 indicates that the noise damper is a foamy water solution of at least one kind of surfactant. Claim 20 describes the noise damper as a foamy water solution of at least one kind of surfactant and including a foam stabilizer. By separately listing these different materials, Applicants submit that the specification fully supports all of the claims. Accordingly, this rejection is overcome.

In regard to claim 8, the Examiner points out that the foam stabilizer is only disclosed in connection with the water and surfactant embodiment. Since claim 1 now allows the choice of the water and surfactant solution without the emulsion of elastomer, claim 8 is appropriate since it now is appropriate for one of the two choices. In view of this, Applicants submit that this rejection is now overcome.

Rejection Under 35 U.S.C. § 102

Claim 1 stand rejected under 35 U.S.C. § 102 as being anticipated by Pace (3,361,698). This rejection is respectfully traversed.

The Examiner relies on the previous rejection to point out that the tire has a liquid which partially fills the tire cavity and it is capable of irregularly changing area with rotation. He also notes that the various polymers may be dispersed in liquid. The Examiner also states that it is very likely that the mixture would be capable of being made into foam since the claim does not require that it is actually foamed.

Claim 1 describes a tire noise reducing system having a combination of elements, including a wheel rim, a tire mounted on the rim and a noise damper disposed in the tire hollow wherein the noise damper is a liquid which is an emulsion of an elastomer and where the damper has a volume which changes the cross sectional area of the tire hollow irregularly during rotation so as to change the resonant mode and to reduce noise. Applicants submit that the reference does not show this claimed invention.

The Pace reference does show a combination of an elastomer and a solvent to form a foamable mixture which rests inside the tire. As noted in column 1, line 47, a pool of this liquid may be one-eighth to one inch deep in the tire. Usually this liquid is to seal the tire in case of puncture. In the description of the preparation of the liquid, the reference describes, at column 3, line 6, that the mixture is allowed to foam and that the foam is destroyed while it is in a fluid unstable state. Thus, this indicates that the liquid is not foamed in use, but that

the possibility of foaming is removed. Further, there is no description in the Pace reference that this liquid is used to dampen noise. Even if the liquid changes shape while the tire rotates, and in some small amount changes the cross sectional area of the tire hollow irregularly, there is insufficient liquid to cause any reduction in noise or to alter the resonant mode of the tire hollow. Merely including the liquid in the tire does not meet the terms of the claim. For these reasons, Applicants submit that claim 1 is not anticipated by the Pace reference.

Rejection Under 35 U.S.C. § 103

The Examiner rejected claim 1 as being obvious over Pace either taken alone or in conjunction with Jones et al. (5,366,601). This rejection is respectfully traversed.

The Examiner relies on the Jones et al. reference to show that one material in the mixture of Pace is known to be a surfactant. However, Applicants submit that even if the Jones et al. reference does describe di-n-butylamine has being a surfactant, the combination of the two references still does not meet the terms of claim 1. As described above in regard to the previous rejection, neither of the references nor the combination teaches the use of such a liquid as a noise damper and does not teach that the changing cross sectional area would bring about a change in the resonant mode and reduce noise. Further, there is no teaching in

either of the references of the need to reduce noise in this manner and accordingly, Applicants submit that claim 1 would not be obvious over this combination.

Claims 9-12 and 14 stand rejected under 35 U.S.C. § 103 as being obvious over Pace in view of Jones et al. and further in view of the European Patent to Gerresheim et al. (753420). This rejection is respectfully traversed.

Claim 14 has been cancelled rendering this part of the rejection moot.

Claims 9-12 add further limitations describing the apparatus for injecting the damper into the tire to limitations of claim 1. While the Gerresheim et al. reference teaches an apparatus for injecting liquid into a tire, Applicants submit that the Examiner has not met his burden of showing each and every feature of the invention as is described in the reference. Accordingly, Applicants submit that these claims are additionally allowable.

Additional Claims

By way of the present amendment, Applicants have also added claims 16-34. Claims 23-26, 27-30 and 31-34 are similar to claims 9-12 but have different dependencies. Thus, these claims are allowable basing their dependencies from allowable independent claims and also for the reasons recited above in regard to claims 9-12.

New independent claims 17, 19 and 20 are similar to claim 1 but have different materials for the noise damper. Thus, in claim 17 the damper is rubber latex, in claim 19 it is a foamy water solution with a surfactant and 20 is a foamy water solution with a surfactant and a foam stabilizer. Each of these claims includes the limitations of claim 1 regarding the cross sectional area to change the resonant mode and reduce noise. Each also includes the limitations regarding the injection volume and the ratio of the foam volume. Applicants submit that these claims are allowable for the same reasons recited above in regard to claim 1.

Applicants have also added dependent claims 16, 18, 21 and 22 which further describes the type of material used in the noise damper. Thus, these claims are considered to be additionally allowable.

Conclusion

In view of the above remarks, it is believed that the claims clearly distinguish over the patent relied on by the Examiner, either alone or in combination. In view of this, reconsideration of the rejections and allowance of all the claims are respectfully requested.

Should there be any outstanding matters which need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number of the undersigned below to conduct an

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interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.


Respectfully submitted,

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